RFP-1325.02 (REV. 3/98)
Previously RF-46522

CORRES. CONTROL
INCOMING LTR NO.

00572 RF 98

DUE DATE
ACTION

	LTR	ENC
BACON, R.F.		
BENSUSSEN, S.J.		
BORMOLINI, A.M.		
BOYTER, N.C.		
BRAILSFORD, M.D		
BURDGE, L.		
CARD, R.G.		
COSGROVE, M.M.		
COULTER, W.L.		
CRAWFORD, A.C.		
DERBY, S.		
DIETERLE, S.E.		
FERRERA, D.W.		
FERRERA, K.P.		
GERMAIN, A.L.		
GILPIN, H.E.		
HARDING, W.A.		
HARROUN, W.P.		
HEDAHL, T.G.		
HILL, J.A.		
MARTINEZ, L.A.		
NORTH, K.		
PARKER, A.		
PHILLIPS, F.J.	X	X
RHOADES, D.W.		
RODGERS, A.D.		
SANDLIN, N.B.		
SPEARS, M.S.		
TILLER, R.E.		
TUOR, N.R.		
VOORHEIS, G.M.		
Greengard, T	X	X

	LTR	ENC
COR. CONTROL	X	X
ADMN. RECORD	X	X
PATS/T130G		

Reviewed for Addressee
Corres. Control RFP

4/15/98
Date By

Ref Ltr. #

DOE ORDER # None

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RFETS-CC-

Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

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Mr. Tim Rehder
Rocky Flats Project Manager
United States Environmental Protection Agency, Region VIII
999 18th Street, Suite 500
Denver, CO 80202-2466

Dear Mr. Rehder:

This letter includes responses to both the Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) comments received on the *Draft "C" Revision of the Sampling and Analysis Plan to Support the Source Removal at the Trench 1 Site, IHSS 108.* As part of comment resolution two teleconferences were held, one with the EPA and one with both the EPA and the CDPHE. Resolutions included in this letter include input from those discussions.

Colorado Department of Health and Environment
Hazardous Material and Waste Management Division

1) *Comment: Some elements required or recommended in regulatory guidance and examples of Quality Assurance Project Plans and Sampling and Analysis Plans are inadequately addressed in this document. Examples include information on detection limits, instrument calibration, details on analytical methods, QA/QC requirements and contingency plans to be used in case unexpected problems are encountered. Some of these issues may not be resolved until an analytical contractor is selected, but approval of this document can only be partial, contingent on reviewing those additional details. The SOW for the analytical contract may provide sufficient detail if it can be released to the regulatory agencies.*

Response: The Rocky Flats Environmental Technology Site (Site) uses consistent protocols established by the Kaiser-Hill (K-H) Analytical Services Division (ASD). Line item codes cited in the analytical tables of this Sampling and Analysis Plan (SAP) correspond to specific analysis/detection limits in the various ASD laboratory Statements of Work (SOW) and include the information noted above. The laboratory SOW for the gamma spectroscopy contract is provided as an enclosure with these responses. The SOWs for various

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chemical/radiological analyses cited by this SAP are included as a floppy disk enclosure to this transmittal. These include:

RC03 Mobile Gamma Spectroscopy SOW
SS01 VOA SOW
SS02 SVOC SOW
SS05 Inorganic Metals SOW
SS08 Waste SOW

Files contained in these SOWs are in .PDF format and can be viewed using Adobe Acrobat software, or its equivalent.

2) *Comment: Page 3, paragraph 3: Uranium "indicative of enrichment" was not mentioned in the PAM. Significant amounts of enriched uranium could have an enormous impact on NESHAPs, and perhaps on worker Health and Safety Plans.*

Response: The results of the sample in question were noted in the Proposed Action Memorandum (PAM), although not specifically identified as being representative of enriched uranium. Because of unknowns associated with excavating a Trench like T-1, the project identified the need for rapid isotopic characterization. An on-site gamma spectroscopy unit operated by independent off-site contractors will provide that support, and will allow project personnel to rapidly identify enriched uranium or contamination by transuranic isotopes in the unlikely event that are they contained in T-1.

3) *Comment: Page 6, paragraph 1: Clarify whether this gamma spectroscopy refers to in situ spectrometry or work done in a laboratory. While ^{241}Am, ^{235}U and ^{238}U are detectable in large amounts by gamma spectrometry, quantification is difficult because of the low energies and emission rates, interference by naturally occurring radionuclides in soil, geometric considerations and high uncertainty. If these issues cannot be satisfactorily resolved, analysis by alpha spectrometry would be preferable. Soils returned to the trench should be verified by alpha spectrometry in any case.*

Response: The gamma spectroscopy system will be operated in a mobile on-site laboratory. This point will be clarified in the SAP. The unit will provide acceptable data quality and meet the detection level requirements established for this project in the enclosed SOW. Quality controls for the gamma spectroscopy system have been augmented and substantially improved over on-site gamma spectroscopy systems of the past, and the statement of work dictating quality controls is included with these comment responses. Further, the gamma spectroscopy program will be implemented by a subcontractor with a well-established track record. The quality controls will be adequate, and confirmation (re-analysis) of our samples by the agencies is acceptable.

4) *Comment: Pages 7-8: For floor sidewall sampling, analysis by gamma spectrometry may result in unacceptably high uncertainties as mentioned in comment No. 2. Identify what analysis will be performed if this is the case.*

Response: Gamma spectroscopy will be used to identify and quantify radionuclides remaining on the excavation floor or sidewalls. The unit will provide acceptable data quality relative to the project's Data Quality Objectives, including the detection level requirements and measurement uncertainties stated in the gamma spectroscopy SOW.

5) *Comment: Pages 12-13: FIDLER measurements are unreliable, subject to high uncertainties and inappropriate for comparison to RFCA action levels. Gamma spectrometry may by appropriate, but approval of that method should await review of analytical and QA/QC procedures. Verification by alpha spectrometry should be performed on some, if not all, soils returned to the trench.*

Response: The Field Instrument for the Detection of Low-Energy Radiation (FIDLER) is capable of screening a relatively large volume of soil quickly and inexpensively and is appropriate as a screening/segregation tool for this project. As described in Sections 2.2.1 and 2.2.2, gamma spectroscopy will be used to verify the FIDLER screening/segregation.

6) *Comment: Page 25 Samples for non-volatile analysis, bullet 3, Page 30, bullet 2: Homogenization of soils for any radionuclide analysis will require much more than "turning over the bag--between 30 seconds and one minute". Such homogenization is usually done mechanically, for several hours, to ensure accurate results.*

Response: Collection of composite samples for non-volatile analyses are more representative than single grab-type samples from the excavation bucket. Significant logistical issues were taken into consideration when determining the appropriate homogenization method. The method chosen will provide a relatively representative sample of the soil in the bucket and will greatly minimize the logistical issues associated with decontaminating stainless steel splitters or other equipment within a posted high contamination area environment. This is especially practical when considering that over 40 areas will be sampled from the excavation periphery. Field duplicates will also be analyzed to quantify overall (field) precision. Also, as agreed in the April 2, 1998, conference call with CDPHE and EPA, the SAP will be modified to increase homogenization time to between one and two minutes.

7) *Comment: Page 29; 3.2.1, paragraph 3: The PAM refers to "three times background", but does not mention FIDLER surveys. Background, and activity in soils, should be determined isotopically.*

Response: The PAM's reference to "three times background" was in relation to quantification by field screening equipment, not quantification by radiochemistry. The PAM describes using the FIDLER as a guide during excavation activities. The use of FIDLER for scanning soil is common at the Site and has been used on many of the previous Source Removals. It is the most efficient means of segregating soil available, and has been used with great success in segregating soils which are contaminated from soils that have little or no radionuclide contamination. As stated in Sections 2.2.1 and 3.2.1, verification sampling/analysis will be performed to confirm the FIDLER assumptions. In addition, empirical data was referenced in the SAP that corroborates these background screening levels.

Finally, the latest data set from the Site that supports use of a (FIDLER) 5000 cpm field measurement threshold for segregating process streams into "above" and "below" Tier II action levels (relative to radionuclides) is presented herein. The data is given in the following enclosures (a semilog scatter plot and table, respectively): "Alpha Spec Sum of Ratios vs FIDLER Measurements" and "Alpha Spec vs. FIDLER Measurements." These data were taken from the 903 Pad Project (subsurface) currently in progress at the Site. The Tier I action levels represent the Buffer Zone hypothetical resident scenario at 85 mrem annual radiation dose. The Tier II action levels represent the Buffer Zone hypothetical resident scenario at 15 mrem annual radiation dose.

FIDLER survey measurements were taken directly over the sample materials later analyzed by alpha spectrometry. Following the collection of soil cores, the cores were placed into a core box. The cores were segregated into six-inch intervals and a FIDLER instrument was placed directly on the core for measurement. The soil core was subsampled for alpha spec analysis at an off-site laboratory.

The enclosed scatter plot displays the 76 data points provided in the associated table; 38 points of alpha spec results were reduced in the Rocky Flats Cleanup Agreement (RFCA) sum of ratios equation, for both Tier I and Tier II levels, and plotted against FIDLER field measurement results. Note that all FIDLER measurements #5000 cpm (also #30k cpm) predicted actinide concentrations less than Tier I levels while only two FIDLER measurements #5000 cpm exceeded Tier II levels. For the purposes of application in the T-1 project, the values exceeding Tier II levels could be considered false negatives when using the FIDLER to predict actinide concentrations. However, for FIDLER readings <5000 cpm, this translates to a 94 percent success rate, consistent with confidence levels typically accepted for the risk of false negatives in making environmental decisions.

The presented data is preliminary and partial, as the data set continues to develop; we plan to update the data set as more lab results become available.

8) *Comment: Pages 38-39; 5.3 Quality Assurance: This section mentions PARCC parameters, but only briefly discusses two. The referenced Administrative Procedures may contain sufficient detail, but has not been available to the regulatory agencies. A summary of how each of the PARCC parameters will be used to evaluate the analytical data should be included and a copy of the referenced document provided to the agencies.*

Response: We will provide a copy of the Standard Operating Procedure.

9) *Comment: Appendix I, Plutonium to Americium Ratios: The methods for making these calculations are correct, but use of the ratio for decision making requires two assumptions. First, that there has been no chemical separation of Am and Pu in the time since these materials were placed in the trench, and second, that there was no Am in the materials at the time they were placed there. The second can be ignored since any additional Am would result in an overestimate of the ^{239}Pu activity. The first is more serious, since any movement of Am away from the Pu would result in an underestimate of the Pu activity, and could result in Tier 1 action levels being unknowingly exceeded. While the form and condition of any plutonium in the trench is unknown, the chemical behavior of Am is different from that of Pu, and measurements of both nuclides by alpha spectrometry in buffer zone soils show large variations in the Pu/Am ratio, implying that given enough time these nuclides will separate. A suggested resolution is to establish a project-specific ratio using the 95% UCL as is currently being done for the 603 (903?) Pad characterization project.*

Response: Significant separation between Am and Pu is improbable. Litaor et al., 1996, indicated "*...that Am-241 does not move faster than Pu-239+240 in the* *soils of the Site.*" Therefore, direct correlations between Am-241 and Pu isotopes are reasonable.

Litaor, M. Iggy, Barth, G. R., Zika, E. M., *Fate and Transport of Plutonium-239+240 and Americium-241 in the Soil of Rocky Flats, Colorado*, Journal of Environmental Quality, Vol. 25, July-August 1996.

10) *Comment: During this project, the agencies may request split samples to be analyzed at a CDPHE and /or EPA lab.*

Response: Analysis of split samples by either agency is acceptable. The Site will require that the agencies' laboratories have the appropriate radioactive materials license and Department of Transportation hazmat employees (49 CFR 1 72, Subpart H), as appropriate, prior to sample transfer.

Environmental Protection Agency
Region VIII

1) *Comment: Page 7, third paragraph: This paragraph discusses the statistical confidences of the proposed confirmation sampling that have been calculated based upon hot spots of 19' and 17' in diameter. However, neither this test or nor Table 2-1, Statistical Parameters Used to Determine Excavation Boundary Sample Approach, provide the variance that was assumed in arriving at the statistical confidences. This needs to be provided in order to evaluate the validity of the calculations.*

Also on this page, it is stated that DU is presumed to be present pervasively throughout the trench volume. The EM/GPR surveys that were conducted do not support this presumption, but instead indicate that only the ends of the trench have large concentrated areas of drums or metal objects, whereas the central portion shows more variability. For this reason, it is necessary to test the variability of the excavation boundaries based upon information gathered during the excavation process. To do this, the trench contents need to be diligently recorded and mapped throughout the excavation process. This will provide the information needed to then section the trench into areas of similar contents. Once this is done, each area having similar contents would then need to be sampled more than once to determine the variability present within the section. Only after the variability is determined can the grid size be accurately calculated.

Response: The calculations used to produce the table were taken from Gilbert (1987), Chapter 10. Our results were based on use of type-curves relative to grid sizes, grid geometries, contamination (areal) geometries, and Beta error, but did not include variance as an input parameter. Our understanding of Gilbert's application is that of detecting hot spots relative to geometry and scale, but not relative to contaminant (composing the hot spot) variance. Assumptions relevant to this approach are also itemized at the beginning of Gilbert's Chapter 10.

Contents removed from the trench will be logged sequentially for traceability to their original relative locale within the trench. The trench, as a whole, is currently viewed as one population (relative to radionuclides) and sampling is planned accordingly. Any samples exhibiting results above action levels will trigger additional remediation of the associated individual "panel" within the trench (SAP Figure 3-1), which ensures satisfactory remediation to the scale and confidences noted in the SAP.

During a March 31, 1998, conference call, EPA asked that the trench be further divided into three approximately equal areas and that one cell within each area be sampled in three areas instead of one as proposed in the original (Draft Rev C) revision of the SAP. This would allow for a partial evaluation of variability within individual cells. The SAP will be modified to reflect this request.

The SAP will also be modified to include that the variance in sample results will be evaluated based on guidance provided in EPA QA/G-4D, Data Quality Objectives Decision Error Feasibility Trials (DEFT). Use of this guidance will allow the variance to be evaluated relative to the mean value of the sample results and its comparison with action levels (RFCA Tier I). Using the sample results, QA/G4 will compute the required minimum number of samples necessary to make a statistically valid decision; if the predicted number of samples is greater than the number actually taken, variance within the sample set is "extreme" and more samples must be taken. Conversely, if the number of samples predicted by G4 is less than or equal to the number specified in the sampling plan, variance is not extreme, and the number of samples specified in the sampling plan is adequate. Logarithmic transformations will be performed as necessary for those contaminants that are logarithmically distributed (e.g., radionuclides) based on site historical data.

Comment: Table 2-1: This table does not agree with Figure 3-1 regarding the number of samples that would be collected. Figure 3-1 shows 20 samples from the trench floor assuming 200' length; Table 2-1 lists 22 samples for the trench floor. Figure 3-1 shows 10 samples taken from the long trench walls; Table 2-1 *lists 11 from the long trench walls. This also results in differences in the total numbers of samples collected of 46 in Table 2-1 versus 42 shown in figure 3-1. Table 2-1 should be corrected accordingly, as should Table 3-1 and various pages in the text.*

Response: The tables and text will be modified to agree with the Figure 3-1.

3) *Comment: Section 2.1.2 DQOs to evaluate VOCs in excavation boundaries: Some of the assumptions made regarding VOCs will need additional sampling for verification. The first assumption is that VOCs are localized, with only a small number of drums of still bottoms present in the entire trench. This could be incorrect, VOCs might be much more widespread than anticipated., and if so, sampling for VOCs would need to be much more pervasive. Another assumption is that still bottom wastes will be easily identified and subsequent sampling will occur only in the grid cells immediately adjacent to this location. If this is indeed the case, it will still need to be tested by sampling in at least one other area of the trench floor. Finally, if no still bottom drums are identified, sampling for VOCs must still occur in at least 2 locations that are most likely to be near former sources.*

Response: Unlike many of the previous Source Removals at the Site, Volatile Organic Compounds (VOC) are not suspected of being a major component of the T-1 contents. If this is not the case (e.g., indication of widespread VOC contamination from field screening, or widespread solvent containing drums), VOC sampling will be reevaluated. Per the plan, additional sampling/analysis for VOCs is still anticipated on radiologically-contaminated soil being evaluated for off-site disposition (see analytical suite in Table 3-2). The fundamental rationale for the VOC sampling approach is process knowledge. VOCs were not a prominent component of the wastestream contributing to this Individual Hazardous Substance Site (only one drum of still bottoms has been documented).

During a March 31, 1998, conference call, EPA requested that in the event that no VOCs are detected during the excavation activities, that two samples should still be collected from the excavation bottom in areas more likely to be VOC contaminated. Although this would be difficult since it would be assumed that if no VOCs were detected by field screening, still bottom identification, or the VOC sampling of the excavated drummed waste (per the subcontractor's SAP), that VOCs were not present in the trench. Therefore, locating a biased sampling location would be difficult to justify. However, project personnel will use professional judgment and collect two VOC samples per EPA request. The SAP will be modified to reflect this change.

4) *Comment: Section 2.1.3 DQOs to evaluate cyanide in excavation boundaries: Ten drums of cemented cyanide waste are expected to be present in the trench and these might be easier to identify than the above mentioned VOC sources, but some additional sampling should be performed as described above to test the validity of the assumptions made. This would include sampling in at least one location other than where cemented cyanide waste is found and alternately, if none is identified, sampling in at least two suspect locations.*

Response: Cyanide is only a Contaminant of Concern on this project because of the suspected presence of the 10 drums containing cemented cyanide waste in T-1. Because of the nature of the cemented waste, and the high Tier I Subsurface Soil Action Level for cyanide (154,000 mg/kg), concentrations of cyanide in soil in excess of the Tier I action levels are improbable. Therefore, soil sampling for cyanide will be confined to localized areas surrounding drums or drum carcasses which contain cemented cyanide waste, and only if the drums themselves (the source) contain cyanide above the RFCA action levels. This is the most reasonable approach to evaluate cyanide.

5) *Comment: Section 2.2 DQOs to evaluate disposition of soils: Using 25 ppm as the concentration from the OVA for determining whether soils should be segregated for possible VOC treatment may not be low enough to screen soils that have VOCs above the RFCA action levels (11.5 mg/kg for PCE and 9.27 mg/kg for TCE). The screening action level must either be dropped below the soil action levels or justification must be provided that establishes 25 ppm as an acceptable screening level.*

Soils in stockpile #1 (<5000 cpm FIDLER) are proposed to be sampled only 3 times for confirmation and if found to be below the soil action levels, would be returned to the trench as specified in the PAM. No rationale or statistical basis is given for the number of samples, and there is no correlation between number of samples and the volume of soils. The same scheme that is proposed for soils going to stockpile #2 (>5000 and <10000 cpm) should be applied to the soils going to stockpile #1, so that there is a sound statistical basis for determining the disposition of these soils.

Response: Determining a direct correlation between VOC screening levels and concentrations of VOCs in the soil is not practical because of the number of variables involved. However, professional judgment from other VOC cleanups at the Site indicate that 25 ppm may be a reasonable screening level. However, in light of the comment, VOC samples will now be collected from soil screened below this level to validate the assumption that 25 ppm is an appropriate screening level.

Based on process knowledge (<1 55-gal drum of VOC-contaminated media in the trench) and groundwater sample results peripheral to the trench, it can qualitatively be concluded that VOCs are not a widespread or prominent contaminant within the trench. Screening in the field will further rule out any concentrated VOC deposits in the trench on a semi-quantitative basis. Similar to the rationale provided for the minimal radionuclide sampling (stated below), where probability of radionuclides is low based on process knowledge and field screening, three VOC samples will be added for confirmation sampling in contrast to sampling for unknowns. Three samples provide quantitative laboratory data to be used for confirmation, that can be evaluated relative to an average value, a confidence interval, and associated variance. In summary, the various types of data listed herein are adequate for determination of the presence or absence of VOC contamination in the trench.

The 5,000 CPM screening level has been used on several Site Source Removals, as referenced in the SAP. Three samples have been stipulated for the primary purpose of *confirmation*, in contrast to a comprehensive characterization of bulk material (e.g., 5,000 - 10,000 CPM) with essentially unknown radiological concentrations (unlike <5,000 CPM segregations, past projects have not segregated soil in the 5,000-10,000 CPM range). Based on the field screening we can conclude, semi-quantitatively, that the probability of radionuclide contamination is very low in the soil below 5,000 CPM. However, three samples provide quantitative laboratory data that can be evaluated relative to an average value and associated variance.

The SAP will also be modified to include that variance in sample results will be evaluated based on guidance provided in EPA QA/G-4D, (DEFT). Use of this guidance will allow the variance to be evaluated relative to the mean value of the sample results and its comparison with action levels (either RFCA Tier I or Tier II action levels). Using the sample results, QA/G4 will compute the required minimum number of samples necessary to make a statistically valid decision; if the predicted number of samples is greater than the number actually taken (i.e., three) variance within the sample set is "extreme" and more samples must be taken. Conversely, if the number of samples predicted by G4 is less than or equal to the number specified in the sampling plan, variance is not extreme, and the number of samples specified in the sampling plan is adequate. Logarithmic transformations will be performed as necessary for those contaminants that are logarithmically distributed (e.g., radionuclides), based on site historical data.

6) *Comment: Section 2.3.1, Page 18, Testing for pyrophoricity: This section discusses testing for pyrophoricity if oxidized DU is encountered, presumably in order to determine whether additional stabilization of the DU is needed prior to disposal. Due to the difficulty in determining accurately whether the oxidized DU is pyrophoric and the likelihood that it will still be pyrophoric, it might make more sense to ship all identified DU to Starmet for stabilization. Also, what criteria will be used to determine whether the DU encountered is oxidized? In addition, what are the criteria to be used in determining the frequency of testing for pyrophoricity?*

The number of samples to test for pyrophoricity is stated as being a minimum of 3. This number should be correlated with the volume of oxidized DU and the variability found in the results.

Response: The Pyrophoricity Evaluation Section is included in the plan so that material that is not pyrophoric may be excluded from unwarranted treatment, as appropriate. Some of the Depleted Uranium (DU) encountered in the trench may no longer be pyrophoric. If the original drums have been breached or the DU is no longer enveloped by cimcool, it is likely that the material has been oxidized and is no longer pyrophoric. Material will be a candidate for further testing if the DU no longer contains a "metallic luster" and rather appears to have a yellow or blackish coating indicative of an oxide coating (the text will be modified to reflect this). Material that is no longer pyrophoric does not justify the significant costs associated with the treatment of this material.

There is no information available as to the percentage or distribution of any oxidized DU within T-1. As specified in the plan, a minimum of three samples are specified for pyrophoricity testing. The sampling strategy for pyrophorics is judgmental, not statistical, based on the conservative biases stated in this section; sample selection is based on the most conspicuous material present, as opposed to pulling random samples that would include native bulk soil materials that we already know are not pyrophoric. In summary, the number of pyrophoric samples is not statistically based because of the sampling goals (i.e., to confirm non-pyrophoricity) and the known information about the bulk material. This approach allows for flexibility to increase the number of samples depending on field conditions.

Comment: Section 5.3, Quality Assurance, page 38: This section states that data validation will not be performed until after the data is used for its intended purpose. This is very risky and could result in remobilizing for further excavation after the trench has been backfilled. Since the trench will be covered by the temporary structure, it seems more reasonable to perform all data validation on *soils that will be returned to the trench and all samples from the excavation floor and walls prior to actually backfilling the trench.*

Response: All laboratories must first pass a pre-award quality audit, followed by annual surveillance audits. The laboratories typically used have had very few analytical problems. The risks associated with using unvalidated data are understood. Data validation will be performed as soon as possible (days to weeks) following completion of data packages in the field. However, if project data have not been validated before scheduled project decisions and actions, validation results will either serve as confirmation of the decisions, or corrective actions will be taken should significant data problems arise from the data validation. Considering that the standby costs incurred between data production and validation are also a significant factor that the project must consider, the project has determined that it is appropriate to proceed as planned.

8) *Comment: Radiological Analysis by HPGe: Table 3-1 and appendix 1 both list the HPGe as an instrument and analytical method to be used for this project. Several samples (3 to 5) should be split and also analyzed by alpha spectrometry in order to correlate and verify the gamma analysis by HPGe. This is especially important when trying to determine the presence and concentration of Plutonium.*

   Response: Quality controls for the gamma spectroscopy system have been augmented and substantially improved over onsite gamma spectroscopy systems of the past; the statement of work dictating quality controls is available from K-H ASD. Further, the gamma spectroscopy program will be implemented by a subcontractor with a well-established track record. The proposed quality controls are adequate. Confirmation (re-analysis) of the T-1 gamma spectroscopy samples by the agencies is acceptable.

9) *Comment: This plan does not mention data management, but probably should since this falls to the responsibility of the Analytical Services Division. The analytical results and sample locations for the confirmation samples collected from the trench floor and walls should be entered into the Soil/Water Database, so that they may be easily accessed in the future if necessary.*

   Response: A discussion on electronic data management was added to Section 5.2, Documentation, noting that data shall be entered into the Soil and Water Database.

The enclosures and a draft copy of this letter were forwarded to your project staff and CDPHE's staff on April 9, 1998. Timely approval of these comment responses and the

SAP will greatly assist Rocky Mountain Remediation Services in meeting a May 14, 1998, excavation start date.

If you have any technical questions, please call me at (303) 966-4839 or Norma Castaneda at 303-966-4226.

Sincerely,

Steven W. Slaten

Steven W. Slaten
RFCA Project Coordinator

Enclosures:
1. Semilog scatter plot, "Alpha Spec Sum of Ratios vs FIDLER Measurements"
2. Table, "Alpha Spec vs. FIDLER Measurements"
3. Procedure 2-G32-ER-ADM-08.02, *Evaluation of ERM Data for Usability in Final Reports*
4. 3.5" IBM-formatted floppy disc containing laboratory statements of work in ".PDF" format

cc w/o Encs:
S. Gunderson, CDPHE
G. Kleeman, EPA
C. Spreng, CDPHE
A. Rampertaap, EM-45, HQ
J. Legare, AMEC, RFFO
R. Tyler, ECD, RFFO
N. Castaneda, ECD, RFFO
T. Greengard, K-H/SAIC
Administrative Record